

Confirmation No. 9354

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appellant:	FUHRMANN <i>et al.</i>	Examiner:	Baron, H.
Serial No.:	10/555,266	Group Art Unit:	2462
Filed:	November 1, 2005	Docket No.:	DE030145US1 (NXPS.518PA)
Title:	ERROR DETECTION AND SUPPRESSION IN A TDMA-BASED NETWORK NODE		

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APPEAL BRIEF

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Dear Sir:

This Appeal Brief is submitted pursuant to 37 C.F.R. §41.37, in support of the Notice of Appeal filed January 17, 2011 and in response to the rejections of claims 1-20 as set forth in the Final Office Action dated July 22, 2010.

**Please charge Deposit Account No. 50-4019 (DE030145US1) \$540.00** for filing this brief in support of an appeal as set forth in 37 C.F.R. §1.17(c). If necessary, authority is given to charge/credit Deposit Account 50-4019 additional fees/overages in support of this filing.

**I. Real Party In Interest**

The real party in interest is NXP Semiconductors. The application is presently assigned of record, at reel/frame nos. 019719/0843 to NXP, B.V., headquartered in Eindhoven, the Netherlands.

**II. Related Appeals and Interferences**

While Appellant is aware of other pending applications owned by the above-identified Assignee, Appellant is unaware of any related appeals, interferences or judicial proceedings that would have a bearing on the Board's decision in the instant appeal.

**III. Status of Claims**

Claims 1-20 stand rejected and are presented for appeal. A complete listing of the claims under appeal is provided in an Appendix to this Brief.

**IV. Status of Amendments**

No amendments have been filed subsequent to the Final Office Action dated July 22, 2010.

**V. Summary of Claimed Subject Matter**

As required by 37 C.F.R. § 41.37(c)(1)(v), a concise explanation of the subject matter defined in the independent claims involved in the appeal is provided herein. Appellant notes that representative subject matter is identified for these claims; however, the abundance of supporting subject matter in the application prohibits identifying all textual and diagrammatic references to each claimed recitation. Appellant thus submits that other application subject matter, which supports the claims but is not specifically identified above, may be found elsewhere in the application. Appellant further notes that this summary does not provide an exhaustive or exclusive view of the present subject matter, and Appellant refers to the appended claims and their legal equivalents for a complete statement of the invention.

Commensurate with independent claim 1, a network node (*see, e.g.*, p. 5:15-27; Fig. 1, element 1) comprises: a communication unit (*see, e.g.*, p. 5:15-27; Fig. 1, element 2) for the implementation of a communication protocol for communication with other network

nodes via a communication medium (*see, e.g.*, p. 5:15-27; Fig. 1, element 5), a bus monitor (*see, e.g.*, p. 5:15-27; FIG. 1, element 3), and a bus driver (*see, e.g.*, p. 5:15-27; element 4), where the communication unit and the bus monitor each mutually independently implement an access time schedule contained in a configuration data record (*see, e.g.*, p. 6:1-13), and each make available, in accordance with the access time schedule, a release signal for the bus driver (*see, e.g.*, p. 6:1-13), the bus driver evaluates these two release signals and, in the event that the two release signals do not coincide, blocks the access of the network node to the communication medium (*see, e.g.*, p. 6:1-13).

Commensurate with independent claim 11, a network node (*see, e.g.*, p. 5:15-27; Fig. 1, element 1) for communication with other network nodes via a communication medium (*see, e.g.*, p. 5:15-27; Fig. 1, element 5), the network node comprising: a bus driver (*see, e.g.*, p. 5:15-27; element 4) configured to evaluate two release signals for equality of the release information made available to it; two separate units provided in the network node (*see, e.g.*, p. 5:15-27; Fig. 1, elements 2, 3), which, mutually independently, each implement an access time schedule to generate the release signal (*see, e.g.*, p. 6:1-13); and wherein, in the event that the release signals do not coincide, the bus driver is configured to block the access of the network node to the communication medium (*see, e.g.*, p. 6:1-13).

Commensurate with independent claim 12, a network device (*see, e.g.*, p. 5:15-27; Fig. 1, element 1) for communicating with other network devices over a communications medium (*see, e.g.*, p. 5:15-27; Fig. 1, element 5), the device comprising: a bus monitor (*see, e.g.*, p. 5:15-27; FIG. 1, element 3) to independently generate a release signal in response to a time schedule from a configuration data record, the time schedule specifying times at which each network device can exclusively communicate on the communications medium; a communication circuit (*see, e.g.*, p. 5:15-27; Fig. 1, element 2) to independently generate another release signal in response to the time schedule, and to implement a communication protocol for communication with the other network nodes via the communication medium (*see, e.g.*, p. 5:24-33); a bus driver (*see, e.g.*, p. 5:15-27; element 4) to evaluate the independently-generated release signals and to block access to the communications medium in response to the evaluation indicating that the release signals do not coincide (*see, e.g.*, p. 6:1-13).

Commensurate with independent claim 17, a network device (*see, e.g.*, p. 5:15-27; Fig. 1, element 1) for time-based communication with other network devices over a communications medium (*see, e.g.*, p. 5:15-27; Fig. 1, element 5) according to a time schedule configuration record that specifies times at which each network device can exclusively communicate on the communications medium, the network device comprising: a bus monitor (*see, e.g.*, p. 5:15-27; FIG. 1, element 3) configured to independently generate a release signal according to the time schedule; a communication circuit (*see, e.g.*, p. 5:15-27; Fig. 1, element 2) configured to independently generate another release signal according to the time schedule, and to implement a communication protocol for communication with the other network nodes via the communications medium (*see, e.g.*, p. 5:24-33); and a bus driver (*see, e.g.*, p. 5:15-27; element 4) configured to evaluate the timing of both of the independently-generated release signals, and block the network device from accessing the communications medium in response to the evaluation indicating that the release signals do not coincide in time (*see, e.g.*, p. 6:1-13).

#### **VI. Grounds of Rejection to be Reviewed Upon Appeal**

The grounds of rejection to be reviewed on appeal are as follows:

- A. Claims 1, 11-12 and 17 stand rejected under 35 U.S.C. § 103(a) over Belschner *et al.* (U.S. Patent No. 7,103,805) in view of Vail *et al.* (U.S. Patent No. 6,918,068).
- B. Claims 3-10, 13, 15-16 and 18-20 stand rejected under 35 U.S.C. § 103(a) over Belschner *et al.* (U.S. Patent No. 7,103,805) in view of Vail *et al.* (U.S. Patent No. 6,918,068), and further in view of Riley (U.S. Patent No. 5,706,289).
- C. Claims 2 and 14 stand rejected under 35 U.S.C. § 103(a) over Belschner *et al.* (U.S. Patent No. 7,103,805) in view of Vail (U.S. Patent No. 5,528,168), and further in view of Baek (U.S. Patent No. 5,680,554).

## VII. Argument

### A. **The Examiner Has Chosen Not To Clarify The Grounds For Rejection Of Claims 2 And 14 Despite Serious Flaws In The Rejection.**

The § 103(a) rejection is erroneous because it is unsupported by any rationale useful for showing a sustainable case of correspondence and/or by a discernable reason to combine alleged teachings from improperly cited and/or unknown references.

Appellant notes that several serious issues regarding the rejection of claims 2 and 14 were brought to the Examiner's attention, but not addressed in any manner. For instance, the rejection of claims 2 and 14 appears to have several erroneous citations. The rejection identifies a U.S. Patent No. 5,528,168 as forming part of the basis for the rejection. According to the USPTO database, the sole inventor of this patent is a Kleveland, Bendik. The rejection, however, states that the rejection is based upon a patent having a first named inventor "Vail." Moreover, the explanation of the rejection states that it is based upon "Belschner, modified Riley with Baek" but no "Riley" reference is listed in the statement of the grounds of rejection. Further complicating the issues is the lack of explanation for how the "Riley" reference is used to modify the "Belschner" reference. For instance, Appellant notes that the no "Riley" reference is present in the rejection of independent claims 1 or 12, from which claims 2 and 14 depend. Moreover, no citation or reference is made to either a "Vail" reference or the '168 reference in the rejection remarks concerning claims 2 and 14.

Accordingly, the grounds of rejection are far from clear. Appellant and the Board should not be left to guess as to the true nature of the grounds for rejection. The rejections should therefore be reversed for failing to clearly articulate the basis of the rejections and thereby failing to present a *prima facie* case.

### B. **The Rejection of Claims 1-20 Should be Reversed for Failing to Show Correspondence, Relying Upon Illogical Combinations and for Undermining the Principle Operation of the Primary Reference.**

The § 103(a) rejection of claims 1-20 should be reversed for failing to show correspondence, relying upon illogical combinations and for advancing a rejection that undermines the principle operation of the primary reference.



The primary '805 reference teaches that there is a diagnostic unit that "checks whether the bus monitor unit regularly retriggers in response to the time patterns by means of the trigger signals" (Col. 3:14-16). The Examiner's assertions, however, fail to show teachings relating to another component that generates similar "trigger signals" and also cites to the same component as being two different components, one of which is alleged to receive a signal from the other. Thus, there appears to be significant confusion as to the basis for the rejection and the Examiner has chosen not to clarify, *e.g.*, by identifying two distinct signals originating from respective components and a third component that receives both of the signals.

More specifically, the Examiner has asserted that the first device for generating a first release signal corresponds to the "bus monitor unit" of the '805 reference and that the second device for generating a second release signal corresponds to "the diagnostic unit" also of the '805 reference. The Examiner does not identify a third device that would allegedly correspond to the bus driver that evaluates signals from both of these first two devices. Indeed, the Examiner confusingly appears to assert that "the diagnostic unit" is this third bus driver device (Final Office Action, p. 6 "the diagnostic unit...evaluates these two release signals."). Since the diagnostic unit is alleged to generate a release signal, it makes no sense that it would then receive the release signal from itself and then evaluate this release signal. Moreover, the Examiner provides no evidence to show that the diagnostic unit is taught to generate a second release signal at all. The Examiner also fails to show that any signal generated by the diagnostic unit is evaluated against the alleged release signal from the "bus monitor unit." Accordingly, the Examiner fails to show correspondence to each element, because the assertion of correspondence relies upon an erroneous allegation that a single diagnostic unit corresponds to two different components.

Moreover, the alleged combination is illogical. The primary '805 reference appears only to teach that a single release signal is to be monitored. No second release signal is shown or identified.<sup>1</sup> The Examiner then attempts to apply a truth table from the secondary '068 reference, despite the truth table being created for a specific set of signals that have not

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<sup>1</sup> The Examiner states at p. 6 of the Final Office Action that there is an evaluation of "these two release signals," however the primary '805 reference appears to only teach an evaluation of a single release signal.

been shown to have any correspondence to the single release signal of the primary '805 reference. Instead, the secondary '068 reference monitors signals from a redundant bus controller and applies these signals to the cited truth table. This redundant bus controller is responsive to a redundant bus select signal (RSS), whereas the primary bus controller responds to a primary bus select signal (PSS). The truth table is premised upon the existence of three different bus enables signals (BE1-BE3) and both of the bus select signals (PSS and RSS). As the primary '805 reference does not have such a redundant bus controller, corresponding bus select signals or bus enable signals, the truth table of the secondary '068 reference has no meaningful application in the context of the system of the primary '805 reference. Moreover, the Examiner has not even identified two different release signals from the primary '805 reference, making any attempt to compare release signals using a truth table irrelevant.

The combination is further illogical because the Examiner is relying upon teachings of the secondary '068 reference that rely upon the selection of either a primary bus or a redundant bus, each controlled by a separate bus controller. The Examiner fails to show that any such primary and redundant bus exists in the primary '805 reference being modified. Thus, the rejection cannot stand on the bare assertion that functionality relating to the enabling of two different busses is relevant to a system that has been shown to have a redundant bus and bus controller.

Appellant further traverses the § 103 rejection of all claims because the cited references teach away from the Office Action's proposed combination. Consistent with the recent Supreme Court decision, *M.P.E.P.* § 2143.01 explains the long-standing principle that a § 103 rejection cannot be maintained when the asserted modification undermines either the operation or the purpose of the main '805 reference - the rationale being that the prior art teaches away from such a modification. *See also KSR Int'l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1742 (2007) ("[W]hen the prior art teaches away from combining certain known elements, discovery of a successful means of combining them is more likely to be non-obvious."). In this instance, the proposed combination would render the '805 reference inoperable because it would result in blocking or allowing bus access based upon the cited truth table in the '068 reference, rather than using an internal diagnostic unit that also

functions when “data communication outside the central node has partially collapsed” as discussed at column 2:31-32. Specifically, using the external monitoring/truth table of the ‘068 reference to detect bus enable signals from different units removes the internal diagnostics of the ‘805 reference, and renders it inoperable for its related purpose as discussed above, for alleviating the need for a separate communications network (column 2:66-67), and enjoying spatial proximity (column 3:26-29). Accordingly, modifying the ‘805 reference as asserted would render it inoperable for its various stated purposes related to internal monitoring at a central node using a diagnostic unit. Under M.P.E.P. § 2143.01, the rejections cannot be maintained.

Appellant submits that neither of the additionally cited ‘289 reference nor the ‘554 reference cure the aforementioned deficiencies. The claims have been grouped accordingly to simplify the Board’s review. For at least the aforementioned reasons, the § 103(a) rejections of claims of 1-20 have failed to establish correspondence via the combination of the ‘805 and ‘068 references, and should be reversed.

### **VIII. Conclusion**

In view of the above, Appellant submits that the rejections of claims 1-20 are improper and therefore requests reversal of the rejections as applied to the appealed claims and allowance of the entire application.

Authority to charge the undersigned’s deposit account was provided on the first page of this brief.

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**APPENDIX OF CLAIMS INVOLVED IN THE APPEAL**  
(S/N 10/555,266)

1. A network node comprising:  
a communication unit for the implementation of a communication protocol for communication with other network nodes via a communication medium,  
a bus monitor, and  
a bus driver, where  
the communication unit and the bus monitor each mutually independently implement an access time schedule contained in a configuration data record, and each make available, in accordance with the access time schedule, a release signal for the bus driver,  
the bus driver evaluates these two release signals and, in the event that the two release signals do not coincide, blocks the access of the network node to the communication medium.
2. A network node as claimed in claim 1, characterized in that the communication unit supplies, in addition, a transmission request signal to the bus driver, as a function of which the bus driver activates its transmission stage if no blockage of access to the communication medium is present.
3. A network node as claimed in claim 1, characterized in that the release signals of the communication unit and the bus monitor are coded inversely to one another.
4. A network node as claimed in claim 1, characterized in that the evaluation of the two release signals is undertaken in the bus driver under the influence of a low-pass filter.
5. A network node as claimed in claim 4, characterized in that the low-pass filter is of configurable design.

6. A network node as claimed in claim 1, characterized in that error-state detection generated in the bus driver is resettable from the outside.
7. A network node as claimed in claim 1, characterized in that error-state detection generated in the bus driver is signaled to the outside.
8. A network node as claimed in claim 1, characterized in that the bus monitor and the bus driver are integrated into one unit.
9. A network with network nodes as claimed in claim 1, wherein the network nodes communicate with each other via a single communications link that consists of the communication medium.
10. A network as claimed in claim 9, in which redundant network channels are provided, wherein a bus monitor and a bus driver are assigned to each network channel in each network node.
11. A network node for communication with other network nodes via a communication medium, the network node comprising:
  - a bus driver configured to evaluate two release signals for equality of the release information made available to it;
  - two separate units provided in the network node, which, mutually independently, each implement an access time schedule to generate the release signal; and
  - wherein, in the event that the release signals do not coincide, the bus driver is configured to block the access of the network node to the communication medium.

12. A network device for communicating with other network devices over a communications medium, the device comprising:

a bus monitor to independently generate a release signal in response to a time schedule from a configuration data record, the time schedule specifying times at which each network device can exclusively communicate on the communications medium;

a communication circuit to independently generate another release signal in response to the time schedule, and to implement a communication protocol for communication with the other network nodes via the communication medium;

a bus driver to evaluate the independently-generated release signals and to block access to the communications medium in response to the evaluation indicating that the release signals do not coincide.

13. The device of claim 12, wherein

the network device communicates with said other network devices over a single communications medium, and

the bus driver evaluates the independently-generated release signals to ensure that both signals match one another to mitigate a network access condition resulting from an improperly-generated release signal.

14. The device of claim 12, wherein

the communication circuit supplies a transmission request signal to the bus driver, and

the bus driver transmits over the communications medium in response to the transmission request signal and to the evaluation not indicating that the release signals do not coincide.

15. The device of claim 12, wherein the bus monitor and the communication circuit generate release signals that are coded inversely, relative to one another.

16. The device of claim 12, wherein the bus driver includes a low-pass filter that is used to evaluate the two release signals.

17. A network device for time-based communication with other network devices over a communications medium according to a time schedule configuration record that specifies times at which each network device can exclusively communicate on the communications medium, the network device comprising:

- a bus monitor configured to independently generate a release signal according to the time schedule;

- a communication circuit configured to independently generate another release signal according to the time schedule, and to implement a communication protocol for communication with the other network nodes via the communications medium; and

- a bus driver configured to

- evaluate the timing of both of the independently-generated release signals, and

- block the network device from accessing the communications medium in response to the evaluation indicating that the release signals do not coincide in time.

18. The device of claim 17, wherein

- the network device communicates with said other network devices over a single communications medium,

- the communication circuit is configured to supply a transmission request signal to the bus driver, and

- the bus driver is configured to transmit over the communications medium in response to the transmission request signal, in response to the evaluation indicating that the release signals do not coincide in time.

19. The device of claim 17, wherein the bus monitor and the communication circuit respectively generate release signals that are coded inversely, relative to one another.

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20. The device of claim 17, wherein the bus driver includes a low-pass filter and is configured to evaluate the timing of both of the independently-generated release signals using the low-pass filter to suppress short-term time differences between the two release signals, and to determine that the independently-generated release signals coincide in time based upon the suppressed short-term time differences.



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## **APPENDIX OF EVIDENCE**

Appellant is unaware of any evidence submitted in this application pursuant to 37 C.F.R. §§ 1.130, 1.131, and 1.132.

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## **APPENDIX OF RELATED PROCEEDINGS**

As stated in Section II above, Appellant is unaware of any related appeals, interferences or judicial proceedings.